

SEQUENCE LISTING

<110> EXELIXIS, INC.

<120> MRACs AS MODIFIERS OF THE RAC PATHWAY AND METHODS OF USE

<130> EX03-083C-PC

<150> US 60/428,874

<151> 2002-11-25

<160> 8

<170> PatentIn version 3.2

<210> 1

<211> 1677

<212> DNA

<213> Homo sapiens

<400> 1

tgtcaccag gctggagtgc agtggcgcaa tctcagctca ctgcaacctc cacctccctg	60
gttcaagcga ttctcctgcc tcctccgccc gacgccccgc gtcccccgcc gcgccgccgc	120
cgccaccctc tgcgccccgc gccgcccccc ggtccccgcc gccatgcccg gcccggccgc	180
gggcagcagg gcccggggtct acgccgaggt gaacagtctg aggagccgcg agtactggga	240
ctacgaggct cacgtcccga gctggggtaa tcaagatgat taccaactgg ttcgaaaact	300
tggtcgggga aaatatagtg aagtatttga ggccattaat atcaccaaca atgagagagt	360
ggttgtaaaa atcctgaagc cagtgaagaa aaagaagata aaacgagagg ttaagattct	420
ggagaacctt cgtgggtgaa caaatatcat taagctgatt gacactgtaa aggaccccg	480
gtcaaagaca ccagcttttg tatttgaata tatcaataat acagatttta agcaactcta	540
ccagatcctg acagactttg atatccggtt ttatatgtat gaactactta aagctctgga	600
ttactgccac agcaaggga tcatgcacag ggatgtgaaa cctcacaatg tcatgataga	660
tcaccaacag aaaaagctgc gactgataga ttggggctctg gcagaattct atcatcctgc	720
tcaggagtac aatgttcgtg tagcctcaag gtacttcaag ggaccagagc tcctcgtgga	780
ctatcagatg tatgattata gcttggacat gtggagtttg ggctgtatgt tagcaagcat	840
gatctttcga aggaaccat tcttccatgg acaggacaac tatgaccagc ttgttcgcat	900
tgccaagggt ctgggtacag aagaactgta tgggtatctg aagaagtatc acatagacct	960
agatccacac ttcaacgata tcctgggaca acattcacgg aaacgctggg aaaactttat	1020
ccatagtgag aacagacacc ttgtcagccc tgaggcccta gatcttctgg acaaacttct	1080
gcgatacgac catcaacaga gactgactgc caaagaggcc atggagcacc catacttcta	1140
ccctgtggtg aaggagcagt cccagccttg tgcagacaat gctgtgcttt ccagtggctc	1200
cacggcagca cgatgaagac tggaaagcga cgggtctgtt gcggttctcc cacttttcca	1260

taagcagaac aagaaccaa tcaaacgtct taacgcgtat agagagatca cgttccgtga 1320
 gcagacacaa aacggtggca ggtttggcga gcacgaacta gaccaagcga agggcagccc 1380
 accaccgtat atcaaacctc acttccgaat gtaaaaggct cacttgcctt tggcttcctg 1440
 ttgacttctt cccgaccag aaagcatggg gaatgtgaag ggtatgcaga atgttggttg 1500
 ttactgttgc tccccgagcc cctcaactcg tccccggcc gcctgttttt ccagcaaacc 1560
 acgctaacta gctgaccaca gactccacag tggggggacg ggcgcagtat gtggcatggc 1620
 ggcagttaca tattattatt ttaaaagtat atattattga ataaaagggt ttaaaag 1677

<210> 2
 <211> 921
 <212> DNA
 <213> Homo sapiens

<400> 2
 actccccca cccacttcg cctgccgcgg tcgggtccgc ggctgcgct gtagcggctg 60
 ccgccgttcc ctggaagtag caacttcctt accccacccc agtcctgggc cccgtccagc 120
 cgctgacgtg aagatgagca gctcagaggg ggtgtcctgg atttcctggg tctgtgggct 180
 ccgtggcaat gaattcttct gtgaagtggg tgaagactac atccaggaca aatttaactt 240
 tactggactc aatgagcagg tccctcacta tcgacaagct ctagacatga tcttggaact 300
 ggagcctgat gaagaactgg aagacaaccc caaccagagt gacctgattg agcaggcagc 360
 cgagatgctt tatggattga tccacgcccg ctacatcctt accaaccgtg gcatcgccca 420
 gatgttgga aagtaccagc aaggagactt tggttactgt cctcgtgtgt actgtgagaa 480
 ccagccaatg cttcccattg gcctttcaga catcccaggt gaagccatgg tgaagctcta 540
 ctgccccaaag tgcattgatg tgtacacaac caagtcata agacaccatc acacggatgg 600
 cgcctacttc ggcaactggt tccctcacat gctcttcata gtgcatcccg agtaccggcc 660
 caagagacct gccaaaccagt ttgtgccag gctctacggt ttcaagatcc atccgatggc 720
 ctaccagctg cagctccaag ccgccagcaa cttcaagagc ccagtcaaga cgattcgctg 780
 attccctccc ccacctgtcc tgcagtcttt gacttttcct ttcttttttg ccaccctttc 840
 aggaaccctg tatggttttt agtttaaatt aaaggagtcg ttattgtggg gggaatatga 900
 aataaagtag aagaaaaggc c 921

<210> 3
 <211> 3358
 <212> DNA
 <213> Homo sapiens

<400> 3
 gagctggagc agccgccacc gccgccgcgg agggagcccc gggacggcag cccctgggcg 60

caggggtgcgc tgttctcgga gtccgaccca gggcgactca cgcccactgg tgcgacccgg 120
acagcctggg actgacccgc cggcccaggc gaggctgcag ccagagggct gggaagggat 180
cgcgctcgcg gcatccagag gcgccaggc ggaggcgagg gagcagggtta gagggacaaa 240
gagctttgca gacgtccccg gcgctctgcg agcgccagcg gccgggacga ggcggccggg 300
agccccggaa gagcccgtgg atgttctgcg cgcggcctgg gagccgccgc cgcgcgccgc 360
tcagcgagag gaggaatgca cggccgcgc cgcgcggga cgcgcgccgc gctcctggcg 420
ctgtgtggcg cgtgtgtgt ggccgcacgc ggggtgtgtg cccaagaaac agagctgtca 480
gtcagtgtgt aattagtgtc tacctcatca tggaacatct caagtgaact caacaaagat 540
tcttacctga cccttgatga accaatgaat aacatcacca cgtctctggg ccagacagca 600
gaactgcact gcaaagtctc tgggaatcca cctcccacca tccgttggtt caaaaatgat 660
gctcctgtgg tccaggagcc cggaggctc tcctttcggg ccaccatcta tggctctcgg 720
ctgcggatta gaaacctcga caccacagac acaggctact tccagtgcgt ggcaacaaac 780
ggcaaggagg tggtttcttc cactggagtc ttgtttgtca agtttgccc ccctccact 840
gcaagtccag gatactcaga tgagtatgaa gaagatggat tctgtcagcc atacagaggg 900
attgcatgtg caagatttat tggcaaccgc accgtctata tggagtcttt gcacatgcaa 960
ggggaaatag aaaatcagat cacagctgcc ttcactatga ttggcacttc cagtacttta 1020
tctgataagt gttctcagtt cgccattcct tccctgtgcc actatgcctt cccgtactgc 1080
gatgaaactt catccgtccc aaagccccgt gacttgtgtc gcgatgaatg tgaaatcctg 1140
gagaatgtcc tgtgtcaaac agagtacatt ttgtcaagat caaatcccat gattctgatg 1200
aggctgaaac tgccaaactg tgaagatctc cccagccag agagcccaga agctgcgaac 1260
tgtatccgga ttggaattcc catggcagat cctataaata aaaatcaca gtgttataac 1320
agcacagggt tggactaccg ggggaccgtc agtgtgacca aatcagggcg ccagtgccag 1380
ccatggaatt ccagtatcc ccacacacac actttcacgc cccttcgttt ccagagctg 1440
aatggaggcc attcctactg ccgcaacca gggaatcaaa aggaagctcc ctggtgcttc 1500
accttggtatg aaaacttta gtctgatctg tgtgacatcc cagcttgca ttcaaaggat 1560
tccaaggaga agaataaaat ggaaatcctg tacatactag tgccaagtgt ggccattccc 1620
ctggccattg ctttactctt cttcttcatt tgcgtctgtc ggaataacca gaagtcatcg 1680
tcggcaccag tccagaggca accaaaacac gtcagaggtc aaaatgtgga gatgtcaatg 1740
ctgaatgcat ataaacccaa gagcaaggct aaagagctac ctctttctgc tgtacgcttt 1800
atggaagaat tgggtgagtg tgcctttgga aaaatctata aaggccatct ctatctccca 1860
ggcatggacc atgctcagct ggttgctatc aagacctga aagactataa caacccccag 1920

caatggatgg aatttcaaca agaagcctcc ctaatggcag aactgcacca cccaatatt 1980
 gtctgccttc taggtgccgt cactcaggaa caacctgtgt gcatgctttt tgagtatatt 2040
 aatcaggggg atctccatga gttcctcatc atgagatccc cacactctga tgttggctgc 2100
 agcagtgatg aagatgggac tgtgaaatcc agcctggacc acggagattt tctgcacatt 2160
 gcaattcaga ttgcagctgg catggaatac ctgtctagtc acttctttgt ccacaaggac 2220
 cttgcagctc gcaatatttt aatcggagag caacttcatg taaagatttc agacttgggg 2280
 ctttcagag aaatttactc cgctgattac tacagggtcc agagtaagtc cttgctgccc 2340
 attcgtgga tgccccctga agccatcatg tatggcaaat tctcttctga ttcagatatt 2400
 tggctccttg gggttgtctt gtgggagatt ttcagttttg gactccagcc atattatgga 2460
 ttcagtaacc aggaagtgat tgagatgggt agaaaacggc agctcttacc atgctctgaa 2520
 gactgcccac ccagaatgta cagcctcatg acagagtgtt ggaatgagat tccttctagg 2580
 agaccaagat ttaaagatat tcacgtccgg cttcggctct gggagggact ctcaagtcac 2640
 acaagctcta ctactcctc agggggaaat gccaccacac agacaacctc cctcagtgcc 2700
 agcccagtga gtaatctcag taacccaga taccctaatt acatgttccc gagccagggt 2760
 attacaccac agggccagat tgctggtttc attggccgc caatacctca gaaccagcga 2820
 ttcattccca tcaatggata cccaatacct cctggatatg cagcgtttcc agctgcccac 2880
 taccagccaa caggtcctcc cagagtgatt cagcactgcc cacctccaa gagtcgggtcc 2940
 ccaagcagtg ccagtgggtc gactagcact ggccatgtga ctgcttgcc ctcatcagga 3000
 tccaatcagg aagcaaatat tcctttacta ccacacatgt caattccaaa tcatcctggt 3060
 ggaatgggta tcaccgtttt tggcaacaaa tctcaaaaac cctacaaaat tgactcaaag 3120
 caagcatctt tactaggaga cgccaatatt catggacaca ccgaatctat gatttctgca 3180
 gaactgtaaa atgcacaact tttgtaaatg tggatatacag gacaaactag acggccgtag 3240
 aaaagattta tattcaaatg tttttattaa agtaagggtc tcatttagca gacatcgcaa 3300
 caagtacctt ctgtgaagtt tcaactgtgtc ttaccaagca ggacagacac tcggccag 3358

<210> 4
 <211> 4091
 <212> DNA
 <213> Homo sapiens

<400> 4
 agccagccct tgccgtggcc ggagccgagc ggcgcatccg ggccggagaa gaggacgacg 60
 acgaggtcct cgaagtggac ccgtttgcga agcgccaggg agaaggagga gcggacgcat 120
 cgtagaaagg ggtggtggcg cccgaccccg cgccccggcc cgaagctctg agggcttccc 180

ggccccact gcctgcggca tggccccggg ctcggcgctc ccgccccggc cgctgctgtg	240
catccccggc gtctgggcgg ccgcccgcgt tctgctctca gtgtcccga cttcagggtga	300
agtggagggt ctggatccga acgacctttt aggaccctt gatgggcagg acggccccgat	360
tccaactctg aaaggttact ttctgaattt tctggagcca gtaaacaata tcaccattgt	420
ccaaggccag acggcaattc tgcactgcaa ggtggcagga aaccacccc ctaacgtgcg	480
gtggctaaag aatgatgcc cggtggtgca ggagccggc cggatcatca tccggaagac	540
agaatatggt tcacgactgc gaatccagga cctggacacg acagacactg gctactacca	600
gtgctggcc accaacggga tgaagaccat taccgccact ggcgtcctgt ttgtgcccgt	660
gggtccaacg cacagcccaa atcataactt tcaggatgat taccacgagg atgggttctg	720
ccagccttac cggggaattg cctgtgcacg cttcattggc aaccggacca tttatgtgga	780
ctcgcttcag atgcagggg agattgaaaa ccgaatcaca gcggccttca ccatgatcgg	840
cacgtctacg cacctgtcgg accagtgtc acagttcgcc atcccactt tctgccactt	900
cgtgtttcct ctgtgcgacg cgcgctccc gacaccaag ccgctgagc tgtgccgga	960
cgagtgcgag gtgctggaga gcgacctgt cgcagaggag tacaccatcg cccgtccaa	1020
cccgtcatc ctcagtggc ttcagtgtc caagtgtgag gcgctgccc tgccgtgagag	1080
ccccgacgt gccaaactgca tgcgcattgg catcccagc gagaggctgg gccgtacca	1140
tcagtgtat aacggctcag gcatggatta cagaggaacg gcaagcacca ccaagtcagg	1200
ccaccagtgc cagccgtgg ccctgcagca cccacacag caccacctgt ccagcacaga	1260
cttccctgag cttggagggg ggcacgccta ctgccggaac cccggaggcc agatggaggg	1320
cccctggtgc tttacgcaga ataaaaacgt acgcatggaa ctgtgtgacg taccctcgtg	1380
tagtccccga gacagcagca agatgggat tctgtacatc ttggtcccca gcatcgcaat	1440
tccactggtc atcgcttgcc ttttcttctt ggtttgcatg tgccggaata agcagaaggc	1500
atctgcgtcc acaccgcagc ggcgacagct gatggcctcg ccagccaag acatggaaat	1560
gcccctcatt aaccagcaca aacaggccaa actcaaagag atcagcctgt ctgcggtgag	1620
gttcatggag gagctgggag aggaccggtt tgggaaagtc taaaaaggtc acctgttcgg	1680
ccctgccccg ggggagcaga ccaggtgtg ggccatcaaa acgctgaagg acaaagcgga	1740
ggggccccctg cgggaggagt tccggcatga ggctatgctg cgagcacggc tgcaacaccc	1800
caacgtcgtc tgctgctgg gcgtggtgac caaggaccag cccctgagca tgatcttcag	1860
ctactgttcg cagggcgacc tccacgaatt cctggctatg cgtcgcggc actcggacgt	1920
gggcagcacc gatgatgacc gcacggtgaa gtccgcctg gagcccccg acttcgtgca	1980
ccttgtggca cagatcgcg cggggatgga gtacctatcc agccaccacg tggttcacia	2040

ggacctggcc acccgcaatg tgctagtgtgta cgacaagctg aacgtgaaga tctcagactt	2100
gggcctcttc cgagaggtgt atgccgccga ttactacaag ctgctgggga actcgctgct	2160
gcctatccgc tggatggccc cagaggccat catgtacggc aagtctctcca tcgactcaga	2220
catctggtcc tacggtgtgg tcctgtggga ggtcttcagc tacggcctgc agccctactg	2280
cggttactcc aaccaggatg tgggtggagat gatccggaac cggcagggtgc tgccttgccc	2340
cgatgactgt cccgcctggg tgtatgccct catgatcgag tgctggaacg agttccccag	2400
ccggcggccc cgcttcaagg acatccacag ccggctccga gcctggggca acctttccaa	2460
ctacaacagc tcgggcgcaga cctcgggggc cagcaacacc acgcagacca gtcacctgag	2520
caccagccca gtgagcaatg tgagcaacgc ccgtacgtg gggcccaagc agaaggcccc	2580
gcccttccca cagccccagt tcattcccat gaagggccag atcagaccca tggtgccccc	2640
gccgcagctc tacgtccccg tcaacggcta ccagccggtg ccggcctatg gggcctacct	2700
gcccacttc taccgggtgc agatcccaat gcagatggcc ccgcagcagg tgcctctca	2760
gatggtcccc aagcccagct cacaccacag tggcagtggc tccaccagca caggctacgt	2820
caccacggcc ccctccaaca catccatggc agacagggca gccctgctct cagagggcgc	2880
tgatgacaca cagaacgccc cagaagatgg gggccagagc accgtgcagg aagcagagga	2940
ggaggaggaa ggctctgtcc cagagactga gctgctgggg gactgtgaca ctctgcagg	3000
ggacgaggcc caagtccagc tgggaagctt agtggcacca gggcccgggg ttcggggata	3060
gaagccccgc cgagaccca cagggacctc agtcaccttt gagaagacac catactcagc	3120
aatcacaaga gcccgcggc cagtgggctt gtttgacagc tgggtgaggt ggagccctgc	3180
tcctctctgt cctctgacac agagagctgc cctgcctagg agcaccacag ccaggcaggg	3240
ggctctggcag cacggcgtcc tggggagcag gacacatggt catccccagg gctgtataca	3300
ttgattctgg tggtagactg gtagtgagca gcaaatgcct ttcaagaaaa taggtggcag	3360
cttcactcca tgtcatatat ggagtgaata tttcaaacg ttgggaataa gggcctgcaa	3420
aaggcagcga ggaggcacct cgggtcttga ggttctgac aaccgatctg gtctgttggt	3480
ttgaggatga aggggctcca tttctgctgc ctccctgctg agaatattct cccttagca	3540
gccaaagatt cgctggaacg gaggctgccc tctgctgcct gttggggctg gaagacaagg	3600
ggcttctgaa atgggagttc ctgagataca acaaaatgtg tgccttcaaa gaaactgaca	3660
gctttgtatt tggtgaaatg gttttaatta tactccatgt gtattttgcc cacttttttt	3720
gggaattcaa gggaaagtgt ttcttgggtt tggaatgttc agaggaagca gtattgtaca	3780
gaacacggta ttgttatttt tgtaagaat catgtacaga gcttaaatgt aatttatatg	3840
tttttaatat gccattttca ttgaagtatt ttggtcttaa gatgacttta gtaatttaac	3900

tgtttatggtt acccacgttg ggatccagtt ggtcttggtt tgcttctctc tgtaccacgt 3960
gcacatgagg tccattcatt ttacagcccc tgttacacac agaccacag gcagccgtct 4020
gtgccccgca cacattgttg gtcctatttg taaatccac acccggtgta tccaataaag 4080
tgaaacaaag c 4091

<210> 5
<211> 350
<212> PRT
<213> Homo sapiens

<400> 5

Met Pro Gly Pro Ala Ala Gly Ser Arg Ala Arg Val Tyr Ala Glu Val
1 5 10 15

Asn Ser Leu Arg Ser Arg Glu Tyr Trp Asp Tyr Glu Ala His Val Pro
20 25 30

Ser Trp Gly Asn Gln Asp Asp Tyr Gln Leu Val Arg Lys Leu Gly Arg
35 40 45

Gly Lys Tyr Ser Glu Val Phe Glu Ala Ile Asn Ile Thr Asn Asn Glu
50 55 60

Arg Val Val Val Lys Ile Leu Lys Pro Val Lys Lys Lys Lys Ile Lys
65 70 75 80

Arg Glu Val Lys Ile Leu Glu Asn Leu Arg Gly Gly Thr Asn Ile Ile
85 90 95

Lys Leu Ile Asp Thr Val Lys Asp Pro Val Ser Lys Thr Pro Ala Leu
100 105 110

Val Phe Glu Tyr Ile Asn Asn Thr Asp Phe Lys Gln Leu Tyr Gln Ile
115 120 125

Leu Thr Asp Phe Asp Ile Arg Phe Tyr Met Tyr Glu Leu Leu Lys Ala
130 135 140

Leu Asp Tyr Cys His Ser Lys Gly Ile Met His Arg Asp Val Lys Pro
145 150 155 160

His Asn Val Met Ile Asp His Gln Gln Lys Lys Leu Arg Leu Ile Asp
165 170 175

Trp Gly Leu Ala Glu Phe Tyr His Pro Ala Gln Glu Tyr Asn Val Arg
180 185 190

Val Ala Ser Arg Tyr Phe Lys Gly Pro Glu Leu Leu Val Asp Tyr Gln
195 200 205

Met Tyr Asp Tyr Ser Leu Asp Met Trp Ser Leu Gly Cys Met Leu Ala
210 215 220

Ser Met Ile Phe Arg Arg Glu Pro Phe Phe His Gly Gln Asp Asn Tyr
225 230 235 240

Asp Gln Leu Val Arg Ile Ala Lys Val Leu Gly Thr Glu Glu Leu Tyr
245 250 255

Gly Tyr Leu Lys Lys Tyr His Ile Asp Leu Asp Pro His Phe Asn Asp
260 265 270

Ile Leu Gly Gln His Ser Arg Lys Arg Trp Glu Asn Phe Ile His Ser
275 280 285

Glu Asn Arg His Leu Val Ser Pro Glu Ala Leu Asp Leu Leu Asp Lys
290 295 300

Leu Leu Arg Tyr Asp His Gln Gln Arg Leu Thr Ala Lys Glu Ala Met
305 310 315 320

Glu His Pro Tyr Phe Tyr Pro Val Val Lys Glu Gln Ser Gln Pro Cys
325 330 335

Ala Asp Asn Ala Val Leu Ser Ser Gly Leu Thr Ala Ala Arg
340 345 350

<210> 6
<211> 215
<212> PRT
<213> Homo sapiens

<400> 6

Met Ser Ser Ser Glu Glu Val Ser Trp Ile Ser Trp Phe Cys Gly Leu
1 5 10 15

Arg Gly Asn Glu Phe Phe Cys Glu Val Asp Glu Asp Tyr Ile Gln Asp
20 25 30

Lys Phe Asn Leu Thr Gly Leu Asn Glu Gln Val Pro His Tyr Arg Gln
35 40 45

Ala Leu Asp Met Ile Leu Asp Leu Glu Pro Asp Glu Glu Leu Glu Asp

50

55

60

Asn Pro Asn Gln Ser Asp Leu Ile Glu Gln Ala Ala Glu Met Leu Tyr
65 70 75 80

Gly Leu Ile His Ala Arg Tyr Ile Leu Thr Asn Arg Gly Ile Ala Gln
85 90 95

Met Leu Glu Lys Tyr Gln Gln Gly Asp Phe Gly Tyr Cys Pro Arg Val
100 105 110

Tyr Cys Glu Asn Gln Pro Met Leu Pro Ile Gly Leu Ser Asp Ile Pro
115 120 125

Gly Glu Ala Met Val Lys Leu Tyr Cys Pro Lys Cys Met Asp Val Tyr
130 135 140

Thr Pro Lys Ser Ser Arg His His His Thr Asp Gly Ala Tyr Phe Gly
145 150 155 160

Thr Gly Phe Pro His Met Leu Phe Met Val His Pro Glu Tyr Arg Pro
165 170 175

Lys Arg Pro Ala Asn Gln Phe Val Pro Arg Leu Tyr Gly Phe Lys Ile
180 185 190

His Pro Met Ala Tyr Gln Leu Gln Leu Gln Ala Ala Ser Asn Phe Lys
195 200 205

Ser Pro Val Lys Thr Ile Arg
210 215

<210> 7
<211> 937
<212> PRT
<213> Homo sapiens

<400> 7

Met His Arg Pro Arg Arg Arg Gly Thr Arg Pro Pro Leu Leu Ala Leu
1 5 10 15

Leu Ala Ala Leu Leu Leu Ala Ala Arg Gly Ala Ala Ala Gln Glu Thr
20 25 30

Glu Leu Ser Val Ser Ala Glu Leu Val Pro Thr Ser Ser Trp Asn Ile
35 40 45

Ser Ser Glu Leu Asn Lys Asp Ser Tyr Leu Thr Leu Asp Glu Pro Met
50 55 60

Asn Asn Ile Thr Thr Ser Leu Gly Gln Thr Ala Glu Leu His Cys Lys
65 70 75 80

Val Ser Gly Asn Pro Pro Thr Ile Arg Trp Phe Lys Asn Asp Ala
85 90 95

Pro Val Val Gln Glu Pro Arg Arg Leu Ser Phe Arg Ser Thr Ile Tyr
100 105 110

Gly Ser Arg Leu Arg Ile Arg Asn Leu Asp Thr Thr Asp Thr Gly Tyr
115 120 125

Phe Gln Cys Val Ala Thr Asn Gly Lys Glu Val Val Ser Ser Thr Gly
130 135 140

Val Leu Phe Val Lys Phe Gly Pro Pro Pro Thr Ala Ser Pro Gly Tyr
145 150 155 160

Ser Asp Glu Tyr Glu Glu Asp Gly Phe Cys Gln Pro Tyr Arg Gly Ile
165 170 175

Ala Cys Ala Arg Phe Ile Gly Asn Arg Thr Val Tyr Met Glu Ser Leu
180 185 190

His Met Gln Gly Glu Ile Glu Asn Gln Ile Thr Ala Ala Phe Thr Met
195 200 205

Ile Gly Thr Ser Ser His Leu Ser Asp Lys Cys Ser Gln Phe Ala Ile
210 215 220

Pro Ser Leu Cys His Tyr Ala Phe Pro Tyr Cys Asp Glu Thr Ser Ser
225 230 235 240

Val Pro Lys Pro Arg Asp Leu Cys Arg Asp Glu Cys Glu Ile Leu Glu
245 250 255

Asn Val Leu Cys Gln Thr Glu Tyr Ile Phe Ala Arg Ser Asn Pro Met
260 265 270

Ile Leu Met Arg Leu Lys Leu Pro Asn Cys Glu Asp Leu Pro Gln Pro
275 280 285

Glu Ser Pro Glu Ala Ala Asn Cys Ile Arg Ile Gly Ile Pro Met Ala
290 295 300

Asp Pro Ile Asn Lys Asn His Lys Cys Tyr Asn Ser Thr Gly Val Asp
 305 310 315 320

Tyr Arg Gly Thr Val Ser Val Thr Lys Ser Gly Arg Gln Cys Gln Pro
 325 330 335

Trp Asn Ser Gln Tyr Pro His Thr His Thr Phe Thr Ala Leu Arg Phe
 340 345 350

Pro Glu Leu Asn Gly Gly His Ser Tyr Cys Arg Asn Pro Gly Asn Gln
 355 360 365

Lys Glu Ala Pro Trp Cys Phe Thr Leu Asp Glu Asn Phe Lys Ser Asp
 370 375 380

Leu Cys Asp Ile Pro Ala Cys Asp Ser Lys Asp Ser Lys Glu Lys Asn
 385 390 395 400

Lys Met Glu Ile Leu Tyr Ile Leu Val Pro Ser Val Ala Ile Pro Leu
 405 410 415

Ala Ile Ala Leu Leu Phe Phe Phe Ile Cys Val Cys Arg Asn Asn Gln
 420 425 430

Lys Ser Ser Ser Ala Pro Val Gln Arg Gln Pro Lys His Val Arg Gly
 435 440 445

Gln Asn Val Glu Met Ser Met Leu Asn Ala Tyr Lys Pro Lys Ser Lys
 450 455 460

Ala Lys Glu Leu Pro Leu Ser Ala Val Arg Phe Met Glu Glu Leu Gly
 465 470 475 480

Glu Cys Ala Phe Gly Lys Ile Tyr Lys Gly His Leu Tyr Leu Pro Gly
 485 490 495

Met Asp His Ala Gln Leu Val Ala Ile Lys Thr Leu Lys Asp Tyr Asn
 500 505 510

Asn Pro Gln Gln Trp Met Glu Phe Gln Gln Glu Ala Ser Leu Met Ala
 515 520 525

Glu Leu His His Pro Asn Ile Val Cys Leu Leu Gly Ala Val Thr Gln
 530 535 540

Glu Gln Pro Val Cys Met Leu Phe Glu Tyr Ile Asn Gln Gly Asp Leu
545 550 555 560

His Glu Phe Leu Ile Met Arg Ser Pro His Ser Asp Val Gly Cys Ser
565 570 575

Ser Asp Glu Asp Gly Thr Val Lys Ser Ser Leu Asp His Gly Asp Phe
580 585 590

Leu His Ile Ala Ile Gln Ile Ala Ala Gly Met Glu Tyr Leu Ser Ser
595 600 605

His Phe Phe Val His Lys Asp Leu Ala Ala Arg Asn Ile Leu Ile Gly
610 615 620

Glu Gln Leu His Val Lys Ile Ser Asp Leu Gly Leu Ser Arg Glu Ile
625 630 635 640

Tyr Ser Ala Asp Tyr Tyr Arg Val Gln Ser Lys Ser Leu Leu Pro Ile
645 650 655

Arg Trp Met Pro Pro Glu Ala Ile Met Tyr Gly Lys Phe Ser Ser Asp
660 665 670

Ser Asp Ile Trp Ser Phe Gly Val Val Leu Trp Glu Ile Phe Ser Phe
675 680 685

Gly Leu Gln Pro Tyr Tyr Gly Phe Ser Asn Gln Glu Val Ile Glu Met
690 695 700

Val Arg Lys Arg Gln Leu Leu Pro Cys Ser Glu Asp Cys Pro Pro Arg
705 710 715 720

Met Tyr Ser Leu Met Thr Glu Cys Trp Asn Glu Ile Pro Ser Arg Arg
725 730 735

Pro Arg Phe Lys Asp Ile His Val Arg Leu Arg Ser Trp Glu Gly Leu
740 745 750

Ser Ser His Thr Ser Ser Thr Thr Pro Ser Gly Gly Asn Ala Thr Thr
755 760 765

Gln Thr Thr Ser Leu Ser Ala Ser Pro Val Ser Asn Leu Ser Asn Pro
770 775 780

Arg Tyr Pro Asn Tyr Met Phe Pro Ser Gln Gly Ile Thr Pro Gln Gly
785 790 795 800

Gln Ile Ala Gly Phe Ile Gly Pro Pro Ile Pro Gln Asn Gln Arg Phe
805 810 815

Ile Pro Ile Asn Gly Tyr Pro Ile Pro Pro Gly Tyr Ala Ala Phe Pro
820 825 830

Ala Ala His Tyr Gln Pro Thr Gly Pro Pro Arg Val Ile Gln His Cys
835 840 845

Pro Pro Pro Lys Ser Arg Ser Pro Ser Ser Ala Ser Gly Ser Thr Ser
850 855 860

Thr Gly His Val Thr Ser Leu Pro Ser Ser Gly Ser Asn Gln Glu Ala
865 870 875 880

Asn Ile Pro Leu Leu Pro His Met Ser Ile Pro Asn His Pro Gly Gly
885 890 895

Met Gly Ile Thr Val Phe Gly Asn Lys Ser Gln Lys Pro Tyr Lys Ile
900 905 910

Asp Ser Lys Gln Ala Ser Leu Leu Gly Asp Ala Asn Ile His Gly His
915 920 925

Thr Glu Ser Met Ile Ser Ala Glu Leu
930 935

<210> 8

<211> 943

<212> PRT

<213> Homo sapiens

<400> 8

Met Ala Arg Gly Ser Ala Leu Pro Arg Arg Pro Leu Leu Cys Ile Pro
1 5 10 15

Ala Val Trp Ala Ala Ala Ala Leu Leu Leu Ser Val Ser Arg Thr Ser
20 25 30

Gly Glu Val Glu Val Leu Asp Pro Asn Asp Pro Leu Gly Pro Leu Asp
35 40 45

Gly Gln Asp Gly Pro Ile Pro Thr Leu Lys Gly Tyr Phe Leu Asn Phe
50 55 60

Leu Glu Pro Val Asn Asn Ile Thr Ile Val Gln Gly Gln Thr Ala Ile

65		70		75		80
Leu His Cys Lys Val Ala Gly Asn Pro Pro Pro Asn Val Arg Trp Leu	85		90		95	
Lys Asn Asp Ala Pro Val Val Gln Glu Pro Arg Arg Ile Ile Ile Arg	100		105		110	
Lys Thr Glu Tyr Gly Ser Arg Leu Arg Ile Gln Asp Leu Asp Thr Thr	115		120		125	
Asp Thr Gly Tyr Tyr Gln Cys Val Ala Thr Asn Gly Met Lys Thr Ile	130		135		140	
Thr Ala Thr Gly Val Leu Phe Val Arg Leu Gly Pro Thr His Ser Pro	145		150		155	160
Asn His Asn Phe Gln Asp Asp Tyr His Glu Asp Gly Phe Cys Gln Pro	165		170		175	
Tyr Arg Gly Ile Ala Cys Ala Arg Phe Ile Gly Asn Arg Thr Ile Tyr	180		185		190	
Val Asp Ser Leu Gln Met Gln Gly Glu Ile Glu Asn Arg Ile Thr Ala	195		200		205	
Ala Phe Thr Met Ile Gly Thr Ser Thr His Leu Ser Asp Gln Cys Ser	210		215		220	
Gln Phe Ala Ile Pro Ser Phe Cys His Phe Val Phe Pro Leu Cys Asp	225		230		235	240
Ala Arg Ser Arg Thr Pro Lys Pro Arg Glu Leu Cys Arg Asp Glu Cys	245		250		255	
Glu Val Leu Glu Ser Asp Leu Cys Arg Gln Glu Tyr Thr Ile Ala Arg	260		265		270	
Ser Asn Pro Leu Ile Leu Met Arg Leu Gln Leu Pro Lys Cys Glu Ala	275		280		285	
Leu Pro Met Pro Glu Ser Pro Asp Ala Ala Asn Cys Met Arg Ile Gly	290		295		300	
Ile Pro Ala Glu Arg Leu Gly Arg Tyr His Gln Cys Tyr Asn Gly Ser	305		310		315	320

Gly Met Asp Tyr Arg Gly Thr Ala Ser Thr Thr Lys Ser Gly His Gln
 325 330 335

Cys Gln Pro Trp Ala Leu Gln His Pro His Ser His His Leu Ser Ser
 340 345 350

Thr Asp Phe Pro Glu Leu Gly Gly Gly His Ala Tyr Cys Arg Asn Pro
 355 360 365

Gly Gly Gln Met Glu Gly Pro Trp Cys Phe Thr Gln Asn Lys Asn Val
 370 375 380

Arg Met Glu Leu Cys Asp Val Pro Ser Cys Ser Pro Arg Asp Ser Ser
 385 390 395 400

Lys Met Gly Ile Leu Tyr Ile Leu Val Pro Ser Ile Ala Ile Pro Leu
 405 410 415

Val Ile Ala Cys Leu Phe Phe Leu Val Cys Met Cys Arg Asn Lys Gln
 420 425 430

Lys Ala Ser Ala Ser Thr Pro Gln Arg Arg Gln Leu Met Ala Ser Pro
 435 440 445

Ser Gln Asp Met Glu Met Pro Leu Ile Asn Gln His Lys Gln Ala Lys
 450 455 460

Leu Lys Glu Ile Ser Leu Ser Ala Val Arg Phe Met Glu Glu Leu Gly
 465 470 475 480

Glu Asp Arg Phe Gly Lys Val Tyr Lys Gly His Leu Phe Gly Pro Ala
 485 490 495

Pro Gly Glu Gln Thr Gln Ala Val Ala Ile Lys Thr Leu Lys Asp Lys
 500 505 510

Ala Glu Gly Pro Leu Arg Glu Glu Phe Arg His Glu Ala Met Leu Arg
 515 520 525

Ala Arg Leu Gln His Pro Asn Val Val Cys Leu Leu Gly Val Val Thr
 530 535 540

Lys Asp Gln Pro Leu Ser Met Ile Phe Ser Tyr Cys Ser His Gly Asp
 545 550 555 560

Leu His Glu Phe Leu Val Met Arg Ser Pro His Ser Asp Val Gly Ser

16

Leu Tyr Val Pro Val Asn Gly Tyr Gln Pro Val Pro Ala Tyr Gly Ala
820 825 830

Tyr Leu Pro Asn Phe Tyr Pro Val Gln Ile Pro Met Gln Met Ala Pro
835 840 845

Gln Gln Val Pro Pro Gln Met Val Pro Lys Pro Ser Ser His His Ser
850 855 860

Gly Ser Gly Ser Thr Ser Thr Gly Tyr Val Thr Thr Ala Pro Ser Asn
865 870 875 880

Thr Ser Met Ala Asp Arg Ala Ala Leu Leu Ser Glu Gly Ala Asp Asp
885 890 895

Thr Gln Asn Ala Pro Glu Asp Gly Ala Gln Ser Thr Val Gln Glu Ala
900 905 910

Glu Glu Glu Glu Glu Gly Ser Val Pro Glu Thr Glu Leu Leu Gly Asp
915 920 925

Cys Asp Thr Leu Gln Val Asp Glu Ala Gln Val Gln Leu Glu Ala
930 935 940